

## CLAIMS

1. A transmitting apparatus that communicates with a receiving apparatus that has demodulating means for simultaneously performing equalization that compensates for signal distortion due to multipath fading and error correction that decodes error-correcting-coded data, said transmitting apparatus comprising:
- distributing means for distributing transmit data to a plurality of sequences; and
- radio transmitting means for performing radio transmission of data distributed to a plurality of sequences by said distributing means.
2. The transmitting apparatus according to claim 1, wherein said distributing means performs serial/parallel conversion of transmit data and distributes said transmit data to a plurality of sequences.
3. The transmitting apparatus according to claim 1, wherein said radio transmitting means performs radio transmission of data distributed to a plurality of sequences by diversity branch.
4. The transmitting apparatus according to claim 3, wherein said diversity branch is configured by using frequency diversity and multiplying data of each sequence by carriers of different frequencies to create a radio

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frequency signal.

5. The transmitting apparatus according to claim 3,  
wherein said diversity branch is configured by using time  
5 diversity and transmitting data of each sequence at  
different timing.

6. The transmitting apparatus according to claim 3,  
wherein said diversity branch is configured by using space  
10 diversity and transmitting data of each sequence using  
a corresponding antenna located at a predetermined  
distance in space from other antennas.

7. The transmitting apparatus according to claim 3,  
15 wherein said diversity branch is configured by using  
angular diversity and transmitting data of each sequence  
with different directivity.

8. The transmitting apparatus according to claim 3,  
20 wherein said diversity branch is configured by using  
polarization diversity and transmitting data of each  
sequence using waves with mutually different planes of  
polarization.

25 9. A data transmission method in a transmitting apparatus  
that communicates with a receiving apparatus that has  
demodulating means for simultaneously performing  
equalization that compensates for signal distortion due

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to multipath fading and error correction that decodes error-correcting-coded data, said data transmission method comprising:

a step of distributing transmit data to a plurality  
5 of sequences; and

a step of performing radio transmission of data distributed to a plurality of sequences.

10. A receiving apparatus comprising:

10 radio receiving means for performing radio reception of a plurality of sequences of data;

combining means for combining a plurality of sequences of data that have undergone radio reception by said radio receiving means; and

15 demodulating means for simultaneously performing equalization that compensates for signal distortion due to multipath fading and error correction that decodes error-correcting-coded data on a result obtained by combining a plurality of sequences of data by said  
20 combining means.

11. The receiving apparatus according to claim 10, wherein said radio receiving means performs radio reception of a plurality of sequences of data by diversity branch.

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12. The receiving apparatus according to claim 10, wherein said combining means performs parallel/serial conversion of, and combines, a plurality of sequences of data that

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13. The receiving apparatus according to claim 10, further comprising correlation monitoring means for monitoring correlation of signal distortion due to multipath fading for a plurality of sequences of data that have undergone radio reception, wherein said combining means combines a plurality of sequences of data that have undergone radio reception according to results of monitoring by said correlation monitoring means.

a step of performing radio reception of a plurality  
of sequences of data;

a step of simultaneously performing equalization that compensates for signal distortion due to multipath fading and error correction that decodes error-correcting-coded data on a result obtained by combining a plurality of sequences of data, and obtaining demodulated data.

16. A base station apparatus that has the receiving

apparatus according to any one of claim 10 through claim 13.

17. A communication terminal apparatus that has the  
5 transmitting apparatus according to any one of claim 1  
through claim 8.

18. A communication terminal apparatus that has the  
receiving apparatus according to any one of claim 10  
10 through claim 13.

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